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## NOTICE OF ALLOWANCE AND FEE(S) DUE

42015 7590 09/20/2010

POTOMAC PATENT GROUP PLLC  
P. O. BOX 270  
FREDERICKSBURG, VA 22404

EXAMINER

CHIOE, YONG J

ART UNIT

PAPER NUMBER

2185

DATE MAILED: 09/20/2010

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/534,430	07/18/2005	Anthony Spencer	0120-034	5040

TITLE OF INVENTION: STATE ENGINE FOR DATA PROCESSOR

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1510	\$300	\$0	\$1810	12/20/2010

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. **PROSECUTION ON THE MERITS IS CLOSED.** THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN **THREE MONTHS** FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. **THIS STATUTORY PERIOD CANNOT BE EXTENDED.** SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

## HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

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B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

**IMPORTANT REMINDER:** Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

# **PART B - FEE(S) TRANSMITTAL**

**Complete and send this form, together with applicable fee(s), to:** Mail **Mail Stop ISSUE FEE**  
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**INSTRUCTIONS:** This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

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## **Certificate of Mailing or Transmission**

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

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nonprovisional	NO	\$1510	\$300	\$0	\$1810	12/20/2010

EXAMINER	ART UNIT	CLASS-SUBCLASS
CHOE, YONG J	2185	711-154000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

- ☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.  
☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. Use of a **Customer Number is required.**

2. For printing on the patent front page, list

- (1) the names of up to 3 registered patent attorneys or agents OR, alternatively, 1 \_\_\_\_\_  
 (2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed. 2 \_\_\_\_\_  
 3 \_\_\_\_\_

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

(B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent): ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

- ☐ Issue Fee  
☐ Publication Fee (No small entity discount permitted)  
☐ Advance Order - # of Copies \_\_\_\_\_

4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above)

- ☐ A check is enclosed.  
☐ Payment by credit card. Form PTO-2038 is attached.  
☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number \_\_\_\_\_ (enclose an extra copy of this form).

5. **Change in Entity Status** (from status indicated above)

- ☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27. ☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature \_\_\_\_\_ Date \_\_\_\_\_  
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This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

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## Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 0 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 0 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

**Notice of Allowability****Application No.**

10/534,430

**Examiner**

YONG CHOE

**Applicant(s)**

SPENCER, ANTHONY

**Art Unit**

2185

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Arguments/Remarks filed on 07/07/2010.
2. ☒ The allowed claim(s) is/are 19-41 and 43-46.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some\* c) ☐ None of the:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.  
(a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached  
1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.  
(b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.  
Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),  
Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_.

/Yong Choe/  
Examiner, Art Unit 2185

### **EXAMINER'S AMENDMENT**

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.
2. Applicant's arguments, see pages 10-13, filed 07/07/2010, with respect to claims 42-46 have been fully considered and are persuasive. Thus, the rejection under 35 USC 112, first paragraph to claims 42-46 has been withdrawn.

### ***Authorization***

3. Authorization for this examiner's amendment was given in a telephone interview with Steve Dubois on 09/10/2010.

### ***Claim Amendments***

4. **Claims 19, 32, 35, 36, 38 and 42-45** of the application have been amended as follows:

**Claim 19.** (Currently Amended) A state engine receiving multiple requests from a parallel processor for a shared state, the state engine comprising:

at least one plurality of state elements means, said at least one plurality of state elements means adapted to operate, atomically, on said shared state in response to a request made by said parallel processor, wherein

said request includes at least a command directing said at least one plurality of state elements means on how to perform an operation on said shared state, said operation including reading, modifying, and writing back said shared state; and

a memory connected to said at least one plurality of state elements means and configured to store said shared state,

wherein said plurality of state elements include a plurality of local shared memories which provide a composite bandwidth that is a sum of all bandwidths associated with each one of said plurality of local shared memories.

**Claim 32.** (Currently Amended) A parallel processor including a state engine, said state engine receiving multiple requests from said parallel processor for a shared state, the state engine comprising:

at least one plurality of state elements means, said at least one plurality of state elements means adapted to operate, atomically, on said shared state in response to a request made by said parallel processor, wherein

said request includes at least a command directing said at least one plurality of state elements means on how to perform an operation on said shared state, said operation including reading, modifying, and writing back said shared state; and

a memory connected to said at least one plurality of state elements means and configured to store said shared state,

wherein said plurality of state elements include a plurality of local shared memories which provide a composite bandwidth that is a sum of all bandwidths associated with each one of said plurality of local shared memories.

**Claim 35.** (Currently Amended) A computer system comprising a parallel processor, said parallel processor including a state engine, said state engine receiving multiple requests from said parallel processor for a shared state, the state engine comprising:

at least one plurality of state elements means, said at least one plurality of state elements means adapted to operate, atomically, on said shared state in response to a request made by said parallel processor, wherein

said request includes at least a command directing said at least one plurality of state elements means on how to perform an operation on said shared state, said operation including reading, modifying, and writing back said shared state; and

a memory connected to said at least one plurality of state elements means and configured to store said shared state,

wherein said plurality of state elements include a plurality of local shared memories which provide a composite bandwidth that is a sum of all bandwidths associated with each one of said plurality of local shared memories.

**Claim 36.** (Currently Amended) A network processor comprising a parallel processor, said parallel processor including a state engine, said state engine receiving

multiple requests from said parallel processor for a shared state, the state engine comprising:

at least one plurality of state elements means, said at least one plurality of state elements means adapted to operate, atomically, on said shared state in response to a request made by said parallel processor, wherein

said request includes at least a command directing said at least one plurality of state elements means on how to perform an operation on said shared state, said operation including reading, modifying, and writing back said shared state; and

a memory connected to said at least one plurality of state elements means and configured to store said shared state,

wherein said plurality of state elements include a plurality of local shared memories which provide a composite bandwidth that is a sum of all bandwidths associated with each one of said plurality of local shared memories.

**Claim 38.** (Currently Amended) A state engine receiving multiple requests from a parallel processor for a shared state, the state engine comprising:

means for operating, atomically, on said shared state in response to a request made by said parallel processor, wherein

said request includes at least a command directing said means for operating on how to perform an operation on said shared state, said operation including reading, modifying, and writing back said shared state;



a memory connected to said means for operating and configured to store said shared state; and

means to supply data to update said shared state.

wherein said state engine includes a plurality of state elements which comprise a plurality of local shared memories which provides a composite bandwidth that is a sum of all bandwidths associated with each one of said plurality of local shared memories.

**Claim 42.** (Cancelled)

**Claim 43.** (Currently Amended) A state engine as claimed in claim 1942, wherein state transactions are processed with said state engine and accesses to shared memory are passed on a system bus.

**Claim 44.** (Currently Amended) A state engine as claimed in claim 1942, wherein each of said plurality of state elements includes a single serialization access point resulting in a plurality of serialization access points within said state engine.

**Claim 45.** (Currently Amended) A state engine as claimed in claim 1942, wherein said plurality of state elements perform as a plurality of partitioned processing functions.

***Reasons of Allowance***

5. **Claims 19-41 and 43-46** are allowed.
6. The following is an examiner's statement of reasons for allowance:

**Independent Claims 19, 32, 35, 36 and 38** identify the distinct features "*the request includes at least a command directing the at least one plurality of state elements means on how to perform an operation on the shared state, the operation including reading, modifying, and writing back the shared state; and a memory connected to the at least one plurality of state elements means and configured to store the shared state, wherein the plurality of state elements include a plurality of local shared memories which provide a composite bandwidth that is a sum of all bandwidths associated with each one of the plurality of local shared memories*", which are not taught or suggested by the prior art of records.

**Claims 19-41 and 43-46** would be allowable over the prior art of record because the claimed features as mentioned above in combination with other claimed features are not recited or suggested by the prior art of records. The above features in conjunction with all other limitations of the dependent and independent **claims 19-41 and 43-46** are hereby allowed.

7. Any comments considered necessary by applicant must be submitted no later

than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

8. Any inquiry concerning this communication should be directed to **Yong Choe** at telephone number **571-270-1053** or email to **yong.choe@uspto.gov**. The examiner can normally be reached on M-F 8:00am to 5:00pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Sanjiv Shah** can be reached on **571-272-4098**. Any inquiry of a general nature or relating to the status of this application should be directed to the TC 2100 whose telephone number is (571) 272-2100.

9. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PMR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-irect.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Yong Choe/  
Examiner, Art Unit 2185